

(A-1626093194)

GENE MUTATIONS IN *Mycobacterium tuberculosis* BASED ON PYROSEQUENCING ASSAY AND ITS ROLE ON ANTITUBERCULOSIS-DRUGS RESISTANCE: A LITERATURE REVIEW

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Background: *Mycobacterium tuberculosis* as the cause of tuberculosis disease is known to have some various genotype variations which can cause antibiotic resistance or cause the bacteria more susceptible to resistance than any other variation. **Objective:** to determine the mutation in the genes of *Mycobacterium tuberculosis* detected by pyrosequencing assay that could cause rifampicin and isoniazid resistance. **Methods:** A literature review is carried out on the included articles obtained from PubMed and Google Scholar database search results. The literature search used the PRISMA flowchart principle. Articles from the search result are checked for duplication and selected through predetermined inclusion and exclusion criteria, in which the journal's reputation is checked according to the Scopus index or SINTA and a critical review of each article is carried out. Selected articles will be analyzed using the narrative review method. **Results:** The search results using the PubMed and Google Scholar database are 725 articles. After going through duplication checks, selection according to inclusion and exclusion criteria, as well as checking journal reputation and critical studies, five articles will be analyzed to answer the research objective. In rifampicin resistance, many gene mutations occurred in *rpoB* Ser531Leu, while in isoniazid resistance mutations occurred in *katG* Ser315Thr and *inhA* 15 C-T. **Conclusion:** There are some mutations in *Mycobacterium tuberculosis* associated with antituberculosis-drug resistance that can be detected by pyrosequencing assay

Keywords: *Mycobacterium tuberculosis*; drug resistance; pyrosequencing; gene mutation

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ABSTRACT BOOK

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UNIVERSITAS PERTIWI



ICOPMAP

2021

ORAL PRESENTER SCHEDULE

September, 4th 2021

12.00 – 16.25

Room A: Pharmaceutical Chemistry		
12.30 – 14.10	(A-1624003261) Baitha Maggadani	Influence Of Cyp2d6 Polymorphism On Tamoxifen Metabolism
	(A-1623141240) Cahaya Azzahra Rahmadhani	Development and Validation Method for Quantification of Favipiravir in Volumetric Absorptive Microsampling (VAMS) using High Performance Liquid Chromatography – Photodiode Array
	(A-1623141322) Devi Ramadhanti Nurhaliza	Analysis of the Rate of Formation of 4-Hydroxycyclophosphamide in Dried Blood Spot of Indonesian Breast Cancer Patients after Administration of Cyclophosphamide
	(A-1625148558) Edria Rasendriya	Validation of Rifampicin and Isoniazid Quantification Method in Dried Blood Spot by High Performance Liquid Chromatography – Photodiode Array
	(A-1626003758) Gregorio Fernando Hadi	Pharmacokinetic Profile and Incurred Sample Stability of Hydroxychloroquine in Volumetric Absorptive Microsampling (VAMS) Using High-Performance Liquid Chromatography-Photodiode Array
	(A-1624020621) Hening Puspa Seruni	Analysis of The Rate of Formation of 4-Hydroxycyclophosphamide in Volumetric Absorptive Microsampling of Breast Cancer Patiens after Administration of Cyclophosphamide using LC-MS/MS
	(A-1626063637) Kholis Amalia Nofianti	The Effect of Power on Synthesis of 4-(4-Methyl)Benzoiloksi-3-Metoxicynamate Acid Using Microwave Irradiation Method
	(A-1626003585) Roesyta's Fitria Noer	Development And Validation Of Method For Analysis Of Favipiravir And Remdesivir In Volumetric Absorptive Microsampling With Ultra High Performance Liquid Chromatography Tandem Mass Spectrophotometry

	(A-1625148891) Siska Silvany Br. Sormin	Comparison of Three Types of Biosampling on Matrix Effect and Recovery on Analysis of Tamoxifen and Its Metabolites
	(A-1624366861) Siti Ardyanti Rohadatul 'aisy	Development and Validation of Quantification Method for Hydroxychloroquine in Volumetric Absorptive Microsampling (VAMS) Using High Performance Liquid Chromatography - Photodiode Array
15.10- 15.50	(A-1624865485) Sri Wardatun	Analysis 3-Hidroxy Propil Mercapturic Acid in Rat Urine on Cyclophosphamide Induced after Treatment Leucaena leucocephala (Lam.) de Wit Extract by Liquid Chromatography Tandem Mass Spectrometry
	(A-1624264873) Steven	Development and Validation of Cyclophosphamide and 4-Hydroxycyclophosphamide Quantification Method in Volumetric Absorptive Microsampling by Liquid Chromatography - Tandem Mass Spectrometry
	(A-1626320532) Supandi & Annisa Larasati Putri	Development of Derivative 1,4 Benzodiazepine Analysis Methods in Biological Matrix using High Performance Liquid Chromatography (HPLC) dan Liquid Chromatography Mass Spectrometer (LCMS): Systematic Review.
	(A-1623913856) Winning Beki Safitri	Analysis of N7-(2-carbamoyl-2-hydroxyethyl)guanine in Dried Blood Spot after Food Exposure by Ultra High Performance Liquid Chromatography - Tandem Mass Spectrometry
Room A: Military Pharmacy and Leadership		
15.50 - 16.10	(A-1626090341) Arya Wijaya Harahap	In Silico Study: Molecular Docking Targeting Kras Receptor in Lung Cancer
	(A-1625800218) Aliyah Nur Ariza	Military Pharmacy Education In Indonesia

Room B: Biology Pharmacy		
12.30 – 14.10	(A-1624797579) Agnes Frethernety	The Green Extraction Technique Of Antioxidant Compounds From Seluang Belum Root's (<i>Luvunga sarmentosa</i> (Blume) Kurz.) Determined By The Abts Assay
	(A-1625924693) Angelina Deva Adella Putri	<i>Physalis angulata</i> : Its Latest Compound And Biological Activities (a Review)
	(A-1624636797) Annisa Primadimanti	Papaya Stem Ointment (<i>Carica Papaya</i> L.) And Its Activity As Wound Healer
	(A-1626014148) Candra Irawan	Potential Of <i>Rhinachanthus Nasutus</i> (L.) Kurz Leaves Extract As Antioxidant And Inhibitor Of Alpha-Glucosidase Activity
	(A-1624844202) Eka Yudha Rahman	Potential Of Pasak Bumi (<i>E. Longifolia</i> Jack) Root As Anti Prostate Cancer Through Anti Proliferation Mechanism On Adenocarcinoma Prostate Cells Pc3
	(A-1626099982) Erna Styani	Antioxidant And Antigout Activity Of Ultrasonic Extract Of Unripe <i>Musa Balbisiana</i> Colla Pulp
	(A-1626075034) Fissilmi Khansa	Enzymatic Production Of Protein Hydrolysate From <i>Nannochloropsis</i> Sp.
	(A-1626138785) Meidi Utami Puteri	Tmepai Functions Via Its Py And A Smad Interaction Motif (Sim) For Tumorigenic Activities Of Breast Cancer Cells
	(A-1626066954) Nanang Yunarto	Hmg-Coa Reductase Inhibitory Activity Of Extract And Catechin Isolate From <i>Uncaria Gambir</i> As A Treatment For Hypercholesterolemia
	(A-1626335015) Nastiti Intan Permata Sari	The Molecular Modeling Of <i>Rpob</i> Gene Mutation In Active Pulmonary Tuberculosis Patients

Room B: Clinical Pharmacy		
14.40 – 16.00	(A-1624075501) Arif Rahmandani	Cost -Utility Analysis Of Treatment With Oseltamivir And Favipiravir On The Patient With Medium Degree Phase Of Covid-19 In Sentra Medika Hospital Cisalak Depok
	(A-1626018272) Dirga	The Effect Of Knowledge And Adherence To Clinclal Outcome In Type 2 Diabetes Mellitus Patients In Several Health Centers In Bandar Lampung
	(A-1625390558) Harapan Parlindungan Ringoringo	The Role Of Ursodeoxycholic Acid And Phenobarbital In Children With Cholestasis: A Longitudinal Study
	(A-1625315129) Harapan Parlindungan Ringoringo	The Role Of Atorvastatin In Management Of Eruptive Xanthoma On A Boy: A Case Report
	(A-1624860863) Indah Kurnia Utami	Cost Effectiveness Analysis Of Antipsychotics In Schizophrenia Patients
	(A-1625204328) Metrikana Novembrina	The Effectiveness Of Favipiravir As An Antiviral Therapy In The Treatment Of Covid-19 In The Several Hospital In Blora.
	(A-1626658238) Syahrul Tuba	Potential Of Pharmacological And Herbal Medicines For Treatment Covid-19 Patients : A Narrative Review
	(A-1625466372) Widyati	Lansoprazole-Induced Thrombocytopenia In Elderly: A Case Report
	(A-1628044063) Paula Mariana Kustiawan	Antioxidant and Antibacterial Activity of Various Fractions of Heterotrigona itama Propolis Found in Kutai Kartanegara
Room B: Biology Pharmacy		
16.00 – 16.10	(A-1628044063) Paula Mariana Kustiawan	Antioxidant and Antibacterial Activity of Various Fractions of Heterotrigona itama Propolis Found in Kutai Kartanegara

Room C: Pharmaceutical Technology		
12.30 – 13.00	(A-1623944414) Dhadhang Wahyu Kurniawan	Formulation Of Cinnamon Bark Essential Oil Gel As Mosquito Repellent
	(A-1626076124) Endang Wahyu Fitriani	Design Of Tea Tree Oil Loaded Nanostructured Lipid Carrier: Preparation And In-Vitro Antifungal Activity
	(A-1622127123) Uce Lestari	Development Of Facial Wash Gel From Activated Charcoal Palm Shell Using Habatussaudah Scrub As Natural Detoxification
Room C: Pharmacology & Biomedical Sciences		
13.00 – 13.50	(A-1626093194) Dian Natasya Rahardjo	Gene Mutations In Mycobacterium Tuberculosis Based On Pyrosequencing Assay And Its Role On Antituberculosis-Drugs Resistance : A Literature Review
	(A-1628009542) Febriana Aquaresta	Comparison Between GenoType MTBDRsl VER 2.0 Assay and Phenotypic Method on Rifampicin Resistant Mycobacterium tuberculosis
	(A-1625799960) Mikael Ham Sembiring	Bottleneck Current Therapy For Malaria: A Narrative Review
	(A-1626004630) Muhamad Azhar	Pax3 And Pax7 Induces Skeletal Muscle Stem Cells In Injury Healing: A Narrative Review
	(A-1626013761) Muhammad Raihan Zulfikar	CRISPR/Cas9 Genome Editing: Future Treatment of Duane Retraction Syndrome
14.40 – 15.30	(A-1626081009) Ni Made Dwi Sandhiutami	Nephroprotective Effect Of Ethanol Extract Abelmoschus Manihot L. Leaves In Gentamicin-Induced Mice
	(A-1626090458) Sella O. Sefa	Monoclonal Antibody Therapy in Humans Against The SARS CoV- 2 Virus
	(A-1625049799) Siti Farah Rahmawati	Corticosteroid Effects On Airway Neuroplasticity In Experimental Models Of Asthma
	(A-1623160672) Widhi Kusuma Wardhana	From Zero To Hero: A Review On Potential Of Kirinyuh For Improving The Histological Features Of Fatty Liver In Dyslipidemic Rats
	(A-1625983310) Yandi Permana	Grasp Of Antimalarial Drug Resistance In Indonesia Population: Focused On Genetic Polymorphism

Room C: Military Pharmacy		
15.30 – 16.00	(A-1626057961) Gilang Bhakti Nusantara	The Role Of Military Pharmacy In Medical Intelligence For State Defense With Sedative Agents
	(A-1626108673) Riyas Muhammad Agung Kotta	Pharmacy As The Foundation Of The Nation: Indonesia's Preparedness In Facing Bioterrorism
	(A-1626009002) Sionvhory Shvidarvy Sroyer	Optimization Therapy Using Combination Of Antiretroviral Therapy And Red Fruit Extract To Reduce Morbidity Of HIV/AIDS

POSTER PRESENTER SCHEDULE

September, 4th 2021

12.00 – 12.50

Room A: Pharmaceutical Chemistry and Military Pharmacy		
12.10 – 12.30	(A-1625145264) Al Lafia Rahmatul Ummah	Validation of a Simultaneous Analytical Method of Risperidone and 9-Hydroxyrisperidone in Dried Blood Spot Using Ultra High Performance Liquid Chromatography Tandem Mass Spectrometry
	(A-1626658667) Tesia Aisyah Rahmania	Synthesis And Antimicrobial Assay Of 3,5-Bis-(4'-Hydroxy-3',5'-Dichlorobenzyliden)-1-Methyl-4-Piperidone And 3,5-Bis-(4'-Hydroxy-3',5'-Dichlorobenzyliden)-4- Piperidone As Hexagamavunone-6 (HGV-6) Analogs
	(A-1626101605) Musadat Furqon Baihaki	Candidates Targeted Therapy Of EGFR For Lung Cancer: In Silico Study
	(A-1626496351) Ahmad Rofee Ramadhan	Management Dual Endemics Of Malaria And Covid 19 When A Tropical Cyclone Occurs In East Nusa Tenggara: A Narrative Review
	(A-1626660972) Yolanda Safitri	Potential of Ethanol Extract of <i>Ocimum americanum</i> L. as Hepatoprotector in Antituberculosis Drugs-Induced Hepatotoxicity

Room B: Biology and Clinical Pharmacy		
12.10 – 12.30	(A-1626657975) Editha Renesteen	Helminth Therapy As Potential Treatment For Multiple Sclerosis
	(A-1626079685) Fathku Rahman	Lactic Acidosis Associated With Metformin In Patients With Diabetic Kidney Disease: A Narrative Review
	(A-1626008874) Yudha Aditya Pradana	Penicillins Vs Macrolides In Diphtheria Treatment In Indonesia
	(A-1626013694) A. Thafida Khalisa	Taken A Lesson In Pandemic Covid-19: Are Supplements And Vitamin Needed?
	(A-1626054040) Muhammad Rifly Aprianto	Effectivity Of Dexamethasone Threatening Severe Covid-19 Patients; Does Still Reliable Used For Covid-19?
	(A-1626104820) Muhammad Fajar Ridho Darussalam	Astrazeneca Covid-19 Vaccine Efficacy A Narrative Review
	(A-1626004630) Savira Azhara Andavia	Level Of Community Knowledge And Behavior Regarding The Use Of Sunscreen Cosmetics

(A-1626001998) Jesicca Dwiyantri	Level Of Public Knowledge Related To Covid-19 Supplementation
(A-1624096399) Essie Octiara	The Use of Lysozyme Toothpaste to Prevent Early Childhood Caries (ecc) in 24-Months Children (Based on <i>S. mutans</i> Colonization and Salivary Antibacterial)
(A-1625216002) Harapan Parlindungan Ringoringo	The Role of Oral Cefixime in 3 Months Old Infant with Typhoid Fever: a Case Report
(A-1625314391) Harapan Parlindungan Ringoringo	The Role of Methylprednisolone in Children with Immune Thrombocytopenic Purpura: a Case Report

Room C: Pharmaceutical Technology and Pharmacology		
12.20 – 12.40	(A-1626090987) Siti Maimunah	Formulation And Antioxidant Properties From Emulgel Of Binjai (Mangifera Caesia Jack. Ex. Wall) Leaves Methanol Extract
	(A-1626058569) Nor Liliyana	The Effect Of Different Gelling Agents On The Sun Protection Factor From Emulgel Formula Of Binjai (Mangifera Caesia Jack. Ex. Wall) Leaves Methanol Extract
	(A-1626106757) Rahmah Elfiyanti	Comparison of Allicin Decomposition Kinetics Between Garlic Extract and Phytosomes of Garlic Extract
	(A-1626057614) Kurnia Sandy	The Effect Of Populations That Have Mutations In The Sars Cov-2 Virus Variant Alpha In The United Kingdom And Variant Beta In South Africa On The Efficacy Of The Viral Vector Platform Vaccine
	(A-1626090393) Dewa Ayu Agung Puspita Dewi	Effect Of Acalypha Indica L. Root Ethanol Extract On Lipid Profile And Troponin-T Of Rat Hearts Treated With High Fructose Cholesterol Diet
	(A-1626099348) Aliqbal Rajib Nohea	Reducing Animal Testing With Ai
	(A-1626081009) Ni Made Dwi Sandhiutami	Nephroprotective Effect of Ethanol Extract <i>Abelmoschus manihot</i> L. Leaves in Gentamicin-Induced Mice

PHARMACOLOGY & BIOMEDICAL SCIENCE

Abstract ID	Name	Title	Category
(A-1626093194)	Dian Natasya Rahardjo	Gene Mutations In <i>Mycobacterium Tuberculosis</i> Based On Pyrosequencing Assay And Its Role On Antituberculosis-Drugs Resistance : A Literature Review	Oral Presenter
(A-1628009542)	Febriana Aquaresta	Comparison Between GenoType MTBDRsl VER 2.0 Assay and Phenotypic Method on Rifampicin Resistant <i>Mycobacterium tuberculosis</i>	Oral Presenter
(A-1625799960)	Mikael Ham Sembiring	Bottleneck Current Therapy for Malaria: a Narrative Review	Oral Presenter
(A-1626004630)	Muhamad Azhar	Pax3 And Pax7 Induces Skeletal Muscle Stem Cells In Injury Healing: A Narrative Review	Oral Presenter
(A-1626013761)	Muhammad Raihan Zulfikar	CRISPR/Cas9 Genome Editing: Future Treatment of Duane Retraction Syndrome	Oral Presenter
(A-1626081009)	Ni Made Dwi Sandhiutami	Nephroprotective Effect Of Ethanol Extract <i>Abelmoschus Manihot</i> L. Leaves In Gentamicin-Induced Mice	Oral Presenter
(A-1626090458)	Sella O. Sefa	Monoclonal Antibody Therapy in Humans Against The SARS CoV- 2 Virus	Oral Presenter
(A-1625049799)	Siti Farah Rahmawati	Corticosteroid effects on airway neuroplasticity in experimental models of asthma	Oral Presenter
(A-1623160672)	Widhi Kusuma Wardhana	From Zero To Hero: A Review On Potential Of Kirinyuh For Improving The Histological Features Of Fatty Liver In Dyslipidemic Rats	Oral Presenter
(A-1625983310)	Yandi Permana	Grasp Of Antimalarial Drug Resistance In Indonesia Population: Focused On Genetic Polymorphism	Oral Presenter
(A-1626099348)	Aliqbal Nohea	Reducing animal testing with AI	Poster Presenter

(A-1626110163)	Bantari Wisynu Kusuma Wardhani	Genome editing as an alternative to develop anti-cancer resistance model	Poster Presenter
(A-1626090393)	Dewa ayu agung puspita dewi	Effect of Acalypha Indica L. Root Ethanol Extract on Lipid Profile and Troponin-T of Rat Hearts Treated with High Fructose Cholesterol Diet	Poster Presenter
(A-1626106058)	Soni Siswanto	Environmental pollutants-induced pulmonary fibrosis: causal and mechanism	Poster Presenter
(A-1626057614)	Kurnia Sandy	The Effect Of Populations That Have Mutations In The SARS COV-2 Virus variant Alpha in the United Kingdom and Variant Beta in South Africa On the Efficacy Of The Viral Vector Platform Vaccine	Poster Presenter

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